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Journal of the Society of Arts.

FRIDAY, NOVEMBER 8, 1867.

Announcements by the Council.

NOTICE TO MEMBERS.

The One-Hundred-and-Fourteenth Session of the Society will commence on Wednesday, the 20th instant, when the Opening Address will be delivered by WILLIAM HAWES, Esq., F.G.S., Chairman of the Council.

The following are the dates of the Wednesday evening meetings, the chair being taken at 8 o'clock :—

1867. November	—	—	20	27
„ December	4	11	18	—
1868. January	—	—	15	22 29
„ February	5	12	19	26
„ March	4	11	18	25
„ April	1	—	15	22 29
„ May	6	13	20	27
„ June	—	—	—	24*

For the Meetings previous to Christmas, the following arrangements have been made :—

NOVEMBER 20.—Opening Address by WM. HAWES, Esq., F.G.S., Chairman of the Council.

NOVEMBER 27.—“On the Diplomatic and other Conferences held recently in Paris with reference to International Coinage, Weights, and Measures.” By LEONE LEVI, Esq., Professor of Commercial Law in King's College, London.

DECEMBER 4.—“On the Relation between Health and Wages.” By J. H. STALLARD, Esq., M.D.

DECEMBER 11.—“On Industrial and Scientific Education; with Notes on the Systems pursued, and the Works produced, in Continental Schools, as exemplified in the Paris Exhibition, and Suggestions for the Establishment of Trade Schools in England.” By ELLIS A. DAVIDSON, Esq.

DECEMBER 18.—“On the Principles that Govern the Future Development of the Marine Boiler, Engine, and Screw Propeller.” By N. P. BURGH, Esq., C.E.

A book of blank Tickets of Admission to the Meetings is now being forwarded to each Member, who is privileged to introduce two friends to each Meeting, on their presenting orders signed by him. Additional Tickets will be sent on application.

The first course of Cantor Lectures for the ensuing Session will be on some branch of Chemistry applied to the Arts, by Dr. F. Crace Calvert, F.R.S., and will be delivered in the early part of the Session; the second course will be “On Food,” by Dr. Letheby, Medical Officer of Health for the City of London. A third course will be given, the arrangements for which are in progress. Further particulars

will be published in the *Journal*. These Lectures are open to Members, each of whom has the privilege of introducing ONE Friend to each Lecture.

Members are reminded that, should any of their friends be willing to join the Society, the opening of the Session is a favourable opportunity for proposing them.

The following Institutions have been received into Union since the last announcement :—

Cork, Catholic Young Men's Society.
Guildford, Working Men's Institution.
Parsonstown, Young Men's Christian Association.
Rugeley, Mechanics' Institution.
York, Church Institute.

Proceedings of the Society.

MEMORIAL TABLETS OF GREAT MEN AND EVENTS.

In order to show how rich the metropolis is in the memory of important personages and events, which it would be desirable to mark by means of tablets on houses, the Council have caused an alphabetical list to be prepared, the fifth part of which is now inserted. Other parts will follow. The Council request the assistance of members of the Society in completing and correcting this list, especially with reference to dates and the insertion of other names.

Whilst the Council intend proceeding with this work, they desire also to see it carried on by others—either by corporate bodies or individuals—and the Council will be happy to be instrumental in procuring suitable tablets from the manufacturers.

Lacy, John (d. 1681), the actor; lived from 1665 to his death in Drury-lane, two doors from Lord Anglesey, and near Cradle-alley. He lies buried “in the farther churchyard” of St. Martin's-in-the-fields.

Lamb, Charles (b. 1775—d. 1834), poet and essayist; born in Crown-office-row, Temple, educated at Christ's Hospital, was a clerk in the East India-house, Leadenhall-street. Lived at No. 4, Inner Temple-lane, Fleet-street; also in Colebrooke-row, Islington; and at No. 20, Russell-street, Covent-garden. He was fond of strolling down Wardour-street.

Lankrink, Prosper Henry (b. 1628—d. 1692), the painter; lived in Piccadilly, in the house now Richardson's Hotel.

Lansdowne, W. Petty, Marquis of (b. 1737—d. 1805); lived in Lansdowne-house, Berkeley-square.

Large, Robert, mercer, the master of Caxton, the inventor of printing; was buried in St. Olave's, Jewry.

Laroone, Marcellus (d. 1702). He drew “The Cries of London, known as Tempest's Cries.” Lived in a house on the west side of Bow-street, three doors up, from 1680 to his death.

Laud, William (b. 1573—d. 1644-5), Archbishop of Canterbury; was imprisoned in the Tower, and beheaded on Tower-hill. He was buried in Allhallows, Barking.

Lauderdale, John Maitland, Duke of (d. 1682), one of the celebrated “Cabal” in the reign of Charles II.; lived in Lauderdale-house, Aldersgate-street.

* The Annual General Meeting: the Chair will be taken at Four o'clock. No Visitors are admitted to this Meeting.

- Lawrence, Sir Thomas (b. 1769—d. 1830), P.R.A.; lived at No. 24, and afterwards at No. 29, Old Bond-street; also for many years in No. 65, Russell-square, where he died. He lies buried in St. Paul's Cathedral. His last work was a full-length portrait of George IV. (unfinished), which hangs in the coffee-room of the Athenæum Club, Pall-mall.
- Lee, Nathaniel (d. 1691-2), dramatist. He was educated at Westminster School; was confined in Bedlam for five years. He died at the "Bear and Harrow," in Butcher-row, Strand, and lies buried at St. Clement's Danes, Strand. A portrait of him hangs at the Garrick Club.
- Leland, John (d. 1552), the father of English antiquaries. Educated at St. Paul's school, and lies buried in St. Michael-the-Querne, Farringdon-within.
- Lely, Sir Peter (b. 1617—d. 1680), portrait painter; lived from 1662 to his death at the north-east angle of the Piazza, Covent-garden, and lies buried at St. Paul's, Covent-garden.
- Lenthall, William (b. 1591—d. 1662), Speaker of the House of Commons in the time of the Commonwealth; lived in King-street, Covent-garden, in a house on the site of Westminster Fire Office.
- L'Estrange, Sir Roger (b. 1616—d. 1704), the printer of the first English newspaper, called the *Public Intelligencer*, in 1663, and many political tracts. He lies buried in the churchyard of St. Giles-in-the-fields.
- Leveridge, R., vocalist; after his retirement from the stage he kept a tavern in Tavistock-street, Covent-garden.
- Lillie, Charles, of the *Spectator*, a perfumer; lived next door to the "Fountain" Tavern, Fountain-court, Strand, afterwards removed to the east corner of Beaufort-buildings, Strand.
- Lilly, William (b. 1602—d. 1681), the astrologer; married at St. George-the-Martyr's, Southwark. Had his first lessons in astrology from one Evans, a Welsh clergyman, in Gunpowder-alley, Shoe-lane. Lived at the corner house "over against Strand-bridge," Strand.
- Linacre, Thomas (b. 1460—d. 1524), physician to Henry VIII., and founder of the Royal College of Physicians. He lived at No. 5, Knight-rider-street, Doctors'-commons, and bequeathed this house, called the "Stone-house," to the College, who still possess it.
- Liston, John (b. 1778—d. 1846), the comedian, and original Paul Pry. First appeared at the Haymarket Theatre. Lived and died at No. 14, St. George's-place. A portrait of him hangs at the Garrick Club. He lies buried in Kensington churchyard.
- Liverpool, Robert, Earl of (b. 1770—d. 1828), statesman. Educated at the Charterhouse. Lived at Fife-house, Whitehall.
- Locke, John (b. 1632—d. 1704), author and essayist; educated at Westminster School, and lived at Dorset-court, Fleet-street.
- Logan, John (d. 1783), a Scottish divine and poet; lived and died in Great Marlborough-street, Oxford-street.
- Loggan, David (circ. 1630—1690), the engraver, who is immortalized by Dryden; lived next door to the "Golden Head," in Leicester-fields.
- Loudon, George (d. 1713), the landscape gardener. His style of laying out and stocking gardens is styled by Walpole, "verdant sculpture." Lived in Warwick-street, Cockspur-street.
- Loughborough, Alex. Wedderburne (b. 1733—d. 1805), Lord Chancellor; lived in Ballimore-house, which now forms the houses on the south-west corner of Guildford-street, Russell-square.
- Louthborough, J. P. de (b. 1734—d. 1812), landscape-painter; lived at No. 45, Great Titchfield-street, Marylebone, from 1776 to 1780.
- Lovelace, Richard (b. 1618—d. 1658), poet and dramatic writer. He lived in a mean-looking house in Gunpowder-alley, Shoe-lane, where he died. He was confined in the Gatehouse Prison, where he wrote his poems "Althea from Prison." He lies buried in St. Bride's, Fleet-street.
- Lowe, Mauritius (d. 1793), painter; lived in 1778 in No. 3, Hedge-lane, now Wentcomb-street, Pall-mall East.
- Lynedoch, Thomas Graham, Lord (b. 1749—d. 1843), the hero of Barossa; lived and died in No. 12, Stratton-street, Piccadilly.
- Lysons, Samuel (b. 1763—d. 1819), the antiquary, and author of "Magna Britannica;" had chambers at No. 6, King's-bench-walk, Inner Temple.
- Lytleton, Sir Edward (b. 1689—d. 1645), Lord Chief Justice; lived in (No.—?) Boswell-court, Fleet-street. Was a member of the Inner Temple.
- Macaulay, Lord (d. 1859), historian; lived in the Albany, in set No. 1 F. Here he wrote his "History of England."
- Mackintosh, Sir James (b. 1765—d. 1832), statesman and lawyer; lived in 1788 at a wine-merchant's in Clipstone-street, Fitzroy-square. He died at No. 15, Langham-place, Regent-street.
- Macklin, Charles (b. 1690—d. 1797), actor and dramatic writer. He delivered his lectures on elocution at Pewterer's Hall, 17, Lime-street. He lived and died at No. 4, Tavistock-row, Covent-garden. He lies buried in St. Paul's, Covent-garden, in a vault under the communion-table.
- Major, Thomas (d. 1799), the engraver; lived and died in No. 5, Tavistock-row, Covent-garden, in the front room on the second-floor.
- Malmesbury, James Harris, Earl of (b. 1746—d. 1820); lived in No. 21, Hill-street, Berkeley-square.
- Malone, Edmund (b. 1741—d. 1812), the Shakespeare commentator and author; lived at No. 23, Foley-place, Regent-street; and in 1800 at No. 58, Queen Anne-street, East, Cavendish-square.
- Mansfield, William Murray, Earl of (b. 1704—d. 1793), Lord Chief Justice; when Mr. Murray, he had chambers at No. 5, King's-bench-walk, Inner Temple; afterwards he lived at the north end of the east side of Bloomsbury-square; this was the house which was burnt by the rioters of 1780. A marble statue to his memory, by Flaxman, stands in Westminster Abbey.
- Manton, Joseph, the celebrated gun-maker; lived in 1792 in Davies-street, Berkeley-square.
- Marriott, Richard, the publisher of Isaac Walton; lived, and published the first edition of the "Complete Angler," at St. Dunstan's-churchyard, Fleet-street.
- Marvell, Andrew (b. 1620—d. 1678), patriot, writer, and poet; lived in (No.—?) Maiden-lane, Covent-garden in 1677; buried in St. Giles-in-the-fields. A portrait of him hangs in the British Museum.
- Masham, Lady, the celebrated bed-chamber woman of Queen Anne; lived in Cork-street, Burlington-gardens.
- Mathews, Charles (b. 1776—d. 1835), comedian; educated at Merchant Taylors' School. One of his first attempts as an actor was made at Short's-gardens, Drury-lane, and another at the lodgings of the aged actor, Charles Macklin, in No. 4, Tavistock-row, Covent-garden. A portrait of him hangs at the Garrick Club.
- May, Thomas (b. 1595—d. 1650), a dramatic poet. Buried at St. Margaret's, Westminster.
- Mayerne, Sir Theodore (b. 1572—d. 1655), physician to James I. and Charles I. Built and lived in Lindsey-house, Chelsea; also in St. Martin's-lane. Buried, and a monument erected to him, in St. Martin's-in-the-fields. A portrait of him hangs in the College of Physicians.
- Maynard, Sir John (b. 1608—d. 1690), serjeant-at-law; lived till his death in Portugal-row, Lincoln's-inn-fields.
- Maynwaring, Arthur (b. 1668—d. 1712), political writer and poet; lived in Essex-street, Strand.
- Mead, Richard (b. 1675—d. 1754), an eminent physician; lived at No. 49, Great Ormond-street, corner of Powis-place. A monument erected to him in Westminster

- Abbey. Portraits of him hang at the Royal College of Physicians and at the Foundling Hospital.
- Melbourne, Peniston Lamb, Viscount (b. 1748—d. 1828); lived at the Albany, also at Melbourne-house, Whitehall.
- Melbourne, William Lamb, Viscount (b. 1779—d. 1848); lived at No. 39, South-street, Grosvenor-square.
- Middlesex, Lionel Cranfield, Earl of (d. 1645), Lord High Treasurer; lived at Beaufort-house, Chelsea. Buried in Westminster Abbey.
- Milbourne, Luke (d. 1720), a divine and poet, rector of St. Ethelburga; educated at Merchant Taylors' School.
- Mildmay, Sir Walter (d. 1589), Chancellor of the Exchequer, and founder of Emanuel College, Cambridge; lived in 1570 in his house in Paul's-wharf. He lies buried, and a fine monument is erected to him, in St. Bartholomew-the-Great, West Smithfield.
- Mill, James (b. 1773—d. 1836), the historian of India; was a clerk in the East India-house, Leadenhall-street.
- Milton, John (b. 1608—d. 1674), the poet; born in (No.—?), Bread-street, Cheapside, and baptized in the adjoining church of Allhallows; educated at St. Paul's School. He lived in numerous places in London, amongst them at (No.—?), Aldersgate-street; in the Barbican; in St. Bride's churchyard, Fleet-street; at the house of one Thomson, next to the "Bullhead" Tavern, Charing-cross; at Petty France, St. James's-park; at Jewin-street, where he lived with his third wife; at Little Britain, Aldersgate-street, in the house of an auctioneer named Millington; and he died in Bunhill, opposite the Artillery-ground wall. He was buried in St. Giles, Cripplegate, and a bust to his memory stands in Westminster Abbey. He was married to his second wife at St. Margaret's, Westminster. His grand-daughter kept a chandler's shop in Pelham-street, Spitalfields.
- Mohun, Major Michael (d. 1684), actor; lived from 1671-76 on the east side of Bow-street, Covent-garden; on the south side of Great Russell-street, Bloomsbury, in 1665; and in (No.—?) Brownlow-street, Holborn, where he died. He lies buried in St. Giles-in-the-Fields.
- Monk, George, Duke of Albemarle, the restorer of Charles II. to his crown and kingdoms; resided in St. James's Palace, and at the Cockpit, Whitehall, where he died. He was married to Anne Clarges, at St. George-the-Martyr, Southwark. He lies buried, and a monument is erected to his memory, in Westminster Abbey.
- Monmouth, James, Duke of (d. 1685), lived in a mansion on the site of the present Bateman's-buildings, Soho-square; also in Hedge-lane, now Whitcomb-street, Pall-mall East. He was beheaded, and lies buried in St. Peter's ad Vincula.
- Montagu, Lady Mary Wortley (d. 1762), authoress, and introducer of inoculation into this country; baptised at St. Paul's, Covent-garden. Lived at Arlington-street, Piccadilly; also at (No.—?) Cavendish-square; at the Piazza, Covent-garden, and at (No.—?) George-street, Hanover-square. She lies interred in Grosvenor Chapel, Grosvenor-square, South Audley-street.
- Montague, Ralph, Duke of (d. 1709), lived at Montague-house, which stood on the site of the British Museum.
- Montague, Elizabeth, (b. 1720—d. 1800), authoress; lived in (No.—?) Hill-street, Berkeley-square; also in Montague-place, Portman-square, which is named after her.
- Montrose, James, Duke of (d. 1742), celebrated for his fidelity to Charles I. and II.; lived at (No.—?) Hanover-square.
- Moore, Thomas (b. 1780), the poet, was a Templar; lived at 33, Bury-street, St. James's.
- More, Sir Thomas (b. 1480—d. 1535), Lord Chancellor; was born in Milk-street, Cheapside. He was educated at St. Anthony's Hospital, a free school, which stood in Threadneedle-street; was a student of Lincoln's-inn; lived at Beaufort-house, Chelsea; also in Bucklers-bury-street. He was imprisoned in the Tower, condemned to death at Westminster Hall, and executed on Tower-hill. It is probable he was buried at St. Peter's ad Vincula.
- Morison, Robert (b. 1620—d. 1683), the botanist and physician; lived in Queen-street, Leicester-square.
- Morland, George (b. 1763—d. 1804), the painter; lived in 1780 to 1786 at No. 14, Stephen-street, Tottenham-court-road. He died in Eyre-street-hill, Coldbath-fields, and lies buried in the churchyard of St. James' Chapel, Hampstead-road.
- Morland, Sir Samuel (b. 1625—d. 1695), carried on his mechanical and philosophical experiments at Copt-hall, near the Thames, at Vauxhall.
- Morley, George (b. 1597—d. 1684), Bishop of Winchester; memorable for having negotiated with the Dutch for the restoration of Charles II.; lived in Cheyne-walk, Chelsea; also in Winchester-house, Southwark.
- Mortimer, J. Hamilton (b. 1741—d. 1779), historical painter; lived at (No.—?), Norfolk-street, Strand.
- Mountford, William (b. 1659—d. 1692), eminent actor; lived on the east side of Norfolk-street, Strand, about two doors beyond Howard-street.
- Mulready, W., R.A.; lived at Lindon-grove, Kensington.
- Munden, Joseph S. (b. 1758—d. 1832), comedian; lived at No. 2, Bernard-street, Russell-square. Buried at St. George's, Bloomsbury. A portrait of him hangs at the Garrick Club.
- Murphy, Arthur (b. 1730—d. 1805), dramatic writer; lived at No. 1, New-square, Lincoln's-inn, and at No. 14, Queen's-row, Knightsbridge, where he died.
- Musgrave, Sir William, presented a collection of prints, books, and MSS. to the British Museum; he lived at No. 9, Park-place, St. James's-square.
- Muskerry, Viscountess. She was the celebrated Princess of Babylon of De Grammont's memoirs. Lived in the north-west angle of the Piazza, Covent-garden, in 1676.
- Mytens, D. (b. circ. 1590—d. 1656), painter; lived on the west side of St. Martin's-lane from 1622-34.
- Nash, John (b. 1752—d. 1835), architect; lived at No. 29, Dover-street, Piccadilly, where he designed Regent-street and Regent's-park; also at Nos. 16 and 14, Regent-street. He designed All Soul's Church, Langham-place; Buckingham Palace, and the United Service Club; he also projected the idea of making the Regent's Canal.
- Nash, Thomas (b. 1558—d. 1601), the satirist, died in Picthatch, a street at the back of Middle-row, opposite the Charter House wall, in Goswell-street.
- Naunton, Sir Robert (d. 1634—5), statesman and author; lived in the "Town's End," the west end of Pall-mall, in 1632.
- Nelson, Horatio, Viscount (b. 1758—d. 1805); lived in (No.—?) Arlington-street; also at No. 141, New Bond-street, in 1797. He lay in state at the Admiralty, Whitehall, and lies buried in St. Paul's Cathedral, where a monument is erected to him. He met the Duke of Wellington only once, and then at the Colonial Office, 14, Downing-street, Whitehall.
- Nelson, Robert (b. 1656—d. 1714-15), author of "Fasts and Festivals, &c.," educated at St. Paul's School; lived at (No.—?) Great Ormond-street; and lies buried at St. George-the-Martyr, Queen-street, Bloomsbury.
- Newcastle, William Cavendish, Duke of (b. 1692—d. 1676); lived in Dorset-house, Fleet-street, also in Newcastle-house, Lincoln's-inn-fields.
- Newton, Gilbert Stuart, R.A. (b. 1795—d. 1835), painter; lived in No. 41, Great Marlborough-street.
- Newton, Sir Isaac (b. 1642—d. 1726-7), philosopher and mathematician; President of the Royal Society. Lived in (No.—?) Jermyn-street, St. James's; also at (No.—?) St. Martin's-street, on the south side of Leicester-square, from 1710 to 1727. He lies buried, and a monument is erected to him, in Westminster Abbey. A portrait of him hangs at the Royal Society, Somerset-house.

- Nichols, John (b. 1744—d. 1826), the archæologist; lived at (No. —?) Highbury-place, Islington; had his printing establishment in Red Lion-court. Buried in the churchyard of St. Mary's, Islington.
- Nicolas, Sir Nicholas Harris (b. 1739—d. 1848), antiquary, and editor of "Wilson's Despatches;" lived at No. 55, Torrington-square.
- Nollekens, Joseph, sculptor (b. 1737—d. 1823). Baptized at the Roman Catholic Chapel in Duke-street, Lincoln's-inn-fields. He lived and died at No. 9, Mortimer-street, Cavendish-square; and lies buried in the churchyard at Paddington.
- North, Sir Dudley (b. 1641—d. 1691), the great swimmer; lived in Basinghall-street.
- North, Francis, Earl of Guildford (b. 1638—d. 1685), Lord-Keeper; was a Templar, and the means of greatly improving the drainage of London; lived in Elm-court, Temple.
- North, Frederic, Lord, Earl of Guildford (b. 1729—d. 1792), statesman; lived at (No. —?), Grosvenor-square.
- Northcote, James, R.A. (b. 1746—d. 1831), painter; lived and died at 8, Argyll-place, Regent-street.
- Nottingham, Heneage Finch, Earl of (b. 1621—d. 1682), Lord Chancellor; was a member of the Inner Temple, Charles II. dined with him at the Inner-Temple Hall; lived in Great Queen-street, Lincoln's-Inn-fields, when his mace was stolen.
- O'Connell, Daniel (b. 1775—d. 1847); lived at No. 19, Bury-street, St. James's, during the struggle for Catholic emancipation, in 1826.
- Ogilby, John (b. 1600—d. 1676), geographer, critic, and poet; kept his map warehouse in Whitefriars; lived in the church of St. Bride's, Fleet-street.
- Oldfield, Anne (b. 1683—d. 1730), actress; lived at the Haymarket from 1714 to 1726, at a house seven doors from the top of the east side, also at Southampton-street, Strand, and at Lower Grosvenor-street, where she died. She was found one day behind the bar of the "Mitre Tavern," St. James's-market, Jermyn-street, rehearsing the "Scornful Lady," when sixteen years old. Lies buried in Westminster Abbey.
- Oliver, Isaac (b. 1556—d. 1617), the miniature painter; lived in Blackfriars, and is buried in St. Anne's church.
- O'Neill, Miss (b. 1791), actress; lived on the west side of Clarges-street, Piccadilly.
- Onslow, Arthur (b. 1691—d. 1768), the Speaker; lived and died in Great Russell-street, Bloomsbury.
- Opie, John, R.A. (b. 1761—d. 1807), painter; lived at 8, Berner's-street, Oxford-street. He lies buried in St. Paul's Cathedral, and a portrait of him hangs at the Dulwich Gallery.
- Orleans, Louis-Philippe, Duke of (b. 1747—d. 1793); lived at No. 31, South-street, Grosvenor-square.
- Ormond, James Butler, Duke of (b. 1610—d. 1688); lived at Clarendon-house, Piccadilly; also in St. James's-square; buried in Westminster Abbey.
- Otway, Thomas (b. 1651—d. 1685), poet and dramatic writer; is said to have died from want, in a public-house on Tower-hill; buried at St. Clement Danes, Strand.
- Palmer, John (b. 1747—d. 1798), actor; built the Royalty Theatre, Wellclose-square; he also played at the Surrey Theatre, Blackfriars-road.
- Paoli, Pasquale de (b. 1726—d. 1807), a celebrated Corsican general and patriot; lived at (No. —?), Upper Seymour-street West; also at (No. —?), South Audley-street, Grosvenor-square; a bust of him stands in Westminster Abbey.
- Parnell, Thomas (b. 1679—d. 1717), poet; lived at (No. —?), St. James's-place, St. James's-street.
- Parsons, Wm. (b. 1735—d. 1795), comedian and painter; was the son of a builder in Bow-lane, Cheapside; a portrait of him hangs at the Garrick Club.
- Patrick, Simon, Bishop of Ely (b. 1626—d. 1707; lived at Ely House, which stood on the site of Ely-place, Holborn; was Rector of St. Paul's, Covent-garden, for many years.
- Patterson, Samuel (b. 1728—1802), was the first auctioneer of books, singly and in lots. He lived in Essex-house, Strand.
- Peel, Sir Robert, statesman; lived at the Privy-gardens. He was married in 1820, at No. 45, Upper Seymour-street West.
- Pembroke, Philip-Herbert, Earl of (d. 1649—50); was installed Chancellor of the University of Oxford, at Baynard's Castle-on-the-Thames, immediately below St. Paul's; lived in the Cockpit, Whitehall, also in Durham-house, Strand.
- Penderell, Richard (d. 1671); styled the "Preserver and conduct to his Sacred Majesty King Charles II., after his escape from Worcester Fight;" lies buried, and a monument is erected to him, in St. Giles's-in-the-Fields.
- Penn, William (b. 1644—d. 1718), the founder of Pennsylvania, and an illustrious Quaker; was born on Tower-hill; lived in Norfolk-street, Strand; was in very bad circumstances, and imprisoned in the Fleet. He often preached at a Quaker's meeting-house in a narrow court opposite the gate of St. Edward-the-Martyr, Lombard-street.
- Pennant, Thomas (b. 1726—1798), historian of London, and antiquarian; lived at (No. —?), George-street, Hanover-square.
- Pepys, Samuel (b. 1632—d. 1703); lived at Axe-yard, King-street, Westminster; at Buckingham-street, Strand; at the old Navy Office in Seething-lane, from 1660 to 1669; and at York-buildings, Strand. Was Master of the Clothworkers in 1677. Buried at St. Olave's, Hart-street.
- Perceval, Spencer (b. 1762—d. 1812), statesman; lived at No. 57, now 59, Lincoln's-inn-fields. A monument is erected to him in Westminster Abbey.
- Perry, James (b. 1756—d. 1821), the editor of the *Morning Chronicle* in the days when this was the great Whig paper. He lived at Tavistock-house, Tavistock-square.
- Peter of Colechurch (d. 1205), architect to old London bridge. Was chaplain of St. Mary Colechurch.
- Peter the Great (b. 1672—d. 1725), Czar of Russia; lived in Buckingham-street, Strand, also in Norfolk-street, Strand; and in 1698 in York-buildings, Strand. He used to resort to the "Czar's Head," No. 48, Great Tower-street, Tower-hill.
- Petty, Sir William (*alias* Graunt) (1623-1687), physician and mathematician, and earliest English writer on political economy; lived in the corner house on the east side of Sackville-street, Piccadilly; also at Tokenhouse-yard, Lothbury.
- Philips, Ambrose (b. 1671—d. 1749), pastoral and dramatic poet, and political writer; lived two doors from Slaughter's Coffee-house, in St. Martin's-lane, from 1720 to 1725; also at (No. —?), Hanover-square, where he died. He lies buried in Grosvenor Chapel, South Audley-street.
- Philips, Sir Richard, the bookseller; lived in 48, Brompton-row.
- Phillips, T., R.A. (b. 1770—d. 1845), portrait painter; lived for 40 years at No. 8, George-street, Hanover-square, where he died.
- Picton, Sir Thomas (d. 1815), fell at Waterloo; lived at No. 146, New Bond-street in 1800. He lies buried in the burial-ground of the parish of St. George's, Hanover square, Bayswater.
- Pidgeon, Bat (temp. Queen Anne); well known to all the readers of the "Spectator;" kept his shop at 277, Strand.
- Pindar, Sir Paul (d. 1650), a merchant, who gave very largely towards the restoration of Old St. Paul's. Lived at 169, Bishopsgate-street Without.
- Pinkerton, John (b. 1758—d. 1826), the historian; lived at No. 9, Tavistock-place, Tavistock-square: also in Lower Eaton-street in 1802.
- Pitt, William, Earl of Chatham (b. 1708—d. 1778), statesman; baptised at St. James's Church, Piccadilly.

He was carried to (No. — ?) Downing-street, Whitehall, after his fatal swoon in the House of Lords. He lay in state in the Painted Chamber, Westminster. He lies buried, and a monument is erected to his memory, in Westminster Abbey. A monument of him is also placed in the Guildhall.

Pitt, Right Hon. William (b. 1759—d. 1806), statesman. He was a student at Lincoln's Inn. He lies buried, and a monument is erected to his memory, in Westminster Abbey. His statue in Hanover-square was attempted to be pulled down in 1831 by the Reformers.

Poelemberg, Cornelius (b. 1586—d. 1660), the artist; lived in Archer-street, Great Windmill-street, Piccadilly.

Pope, Alexander (b. 1688—d. 1744), poet; born in (No. — ?) Lombard-street, at his father's linendraper's shop. Was at school at Marylebone, and Hyde-park-corner. He lived in St. James's-street. He became first acquainted with Warburton at Robinson's book shop, Inner Temple-lane.

Pope, Miss (b. 1743—d. 1818), the actress; lived and died at 17, Michael-place, Brompton.

Pope, Mrs. (d. 1797), actress; she lived and died in Halfmoon-street, Piccadilly.

Pope, Sir Thomas (b. 1508—d. 1558), statesman, and founder of Trinity College, Oxford; lived in a large house in Bermondsey.

Porson, Richard (b. 1759—d. 1808), eminent Greek scholar; used to frequent a tavern at No. 20, Maiden-lane, Covent-garden, called the "Cider Cellars." Died in the rooms of the London Institution in the Old Jewry.

Porter, Mrs., the actress, lived over against the "Blue Ball," Arundel-street, Strand.

Portland, Duke of (b. 1738—d. 1809), statesman; lived in Burlington-house.

Prior, Matthew (b. 1664—d. 1731), poet and statesman. He was educated at Westminster School. Lived at (No. — ?) Duke-street, King-street, Westminster. He is buried in Westminster Abbey, and the monument to his memory was erected by himself.

Pritchard, Hannah (b. 1711—d. 1768), actress; she first attracted attention at St. Bartholomew Fair. She lived at (No. — ?) York-street, Covent-garden; and lies buried in Westminster Abbey.

Prynne, William (b. 1600—d. 1669), lawyer and writer; was a student in Lincoln's Inn. He was imprisoned in the Fleet for writing his "Histriomastix," was tried at the Star Chamber, and stood in the pillory in Old Palace Yard. He lies buried in Lincoln's Inn Chapel.

Psalmanazar, George (b. 1679—d. 1763), the pretended converted Japanese; lived in Pall-mall. He compiled his "Universal History" at Sion College, London-wall, and died in Ironmonger-row, Old-street, St. Luke's.

Pulteney, W., Earl of Bath (b. 1682—d. 1764), statesman; lived on the west side of Arlington-street, Piccadilly; also at Bath-house, Piccadilly. He is buried, and a monument erected to his memory, in Westminster Abbey.

Purcell, Henry (b. 1658—d. 1695), musician and composer; lived at (No. — ?) St. Anne's-lane, Great Peter-street, Westminster. He lies buried, and a monument is erected to his memory, in Westminster Abbey.

Pye, Henry James (b. 1745—d. 1813), poet laureate; lived from 1799 to 1800 at No. 2, James-street, Buckingham-gate.

Pym, John (1584-1643), the Puritan, lived in Gray's-inn-lane, Holborn. He died in Denby-house, Canon-row, Westminster.

Proceedings of Institutions.

BOLTON CHURCH INSTITUTE.—On Monday evening, the 30th September, the prizes and certificates awarded by the Society of Arts and the Department of Science and Art to the candidates connected with this institution, were distributed by John Hick, Esq., of Hill Top. There was a large attendance. The platform was occupied by the Rev. Canon Powell (who presided), the Mayor (F. Ferguson, Esq.), Lieut.-Col. Gray, M.P., the Rev. Canon Thicknesse, the Rev. J. S. Birley, the Rev. T. Berry, Rev. A. Birley, Rev. A. Packer, Rev. J. Lowe (secretary of the Institute), and many others.—The Rev. Vicar commenced the proceedings by observing that they were assembled to inaugurate another working year of the Bolton Church Institute. The operations of last year had largely exceeded their expectations, having had 104 honorary members paying annual subscriptions; 683 quarterly tickets had been sold, the total number of persons who had partaken of the advantages of the Institution being 332. Thus the Institution had been doing its work well. They had now within those walls a flourishing day school, where 70 young gentlemen were having a thoroughly good English liberal education; then they had a reading-room extensively patronised, and well supplied with periodicals and newspapers; and also a museum, with about 1,000 specimens. But the great work going on had been in connection with the classes.—Mr. John Hick delivered an address, and presented the prizes and certificates, concluding his remarks as follows:—"It is further a source of much gratification to find that although we have been at work so short a time, comparatively, our position as an Institution in the Society of Arts' Examination is a good one. Preston only is before us, and that is an older Institution, and we have only to go on steadily persevering, and a still better result is sure to follow. The percentage of failures by the pupils who attended the examinations was very small; but the percentage of those who did not present themselves for examination was much too large; and I would strongly urge upon these latter to make a strong and determined effort this session. Before concluding my remarks, I must just give you a short quotation from the report of Mr. Anderson, Inspector of Machinery at the Royal Arsenal of Woolwich, upon the class in which he has been a juror in Paris. He says—'That there has been no lack of talent or invention is abundantly evidenced by our past history; but unless we have the same advantages, especially in regard to theoretical and mathematical education, which are so abundantly enjoyed by other countries, the competition becomes so unequal that no inherent skill can long withstand it. We require better education for all our leading workmen, and more especially for draughtsmen, foremen, managers, and masters too, and to be given in such abundance all over the kingdom as will not make the possessor the exception, and so cause him to feel above the drudgery of his daily work. Such a general diffusion of systematic theoretical knowledge relating to the principles on which engineering and machine-making depends, will bring out the latent talent of this country. Of practical knowledge and skill there is great abundance, and when in addition the head has been trained as well as the hands, together with the inherent perseverance of our national character, we may still hope to retain our position in the world.' Now, these remarks were in reference to our position as manufacturers of steam-engines and machinery generally, but they are much more generally applicable."—Ald. R. Harwood then briefly explained the circumstances under which he made the offer of a £5 prize to the person who obtained the greatest number of first-class prizes and certificates during the year. It was competed for by two individuals last year who had obtained three first-class prizes—something quite unknown before. The prize was divided last year, and the same result had happened on

this occasion.—Lieut.-Col. Grey proposed a vote of thanks to Mr. Hick for distributing the prizes, and for his sound and practical address.—The Rev. J. S. Birley, who was introduced by the Vicar as one of the founders of the Institution, seconded the motion, and delivered an address on the value of such Institutions.—The Mayor, after a complimentary allusion to Mr. Hick, who was well able to dwell upon the importance of technical education amongst the artisans of this country, expressed his entire sympathy with the remarks of Mr. Birley. The resolution was then put and carried with acclamation. There was a splendid exhibition of works of art and of scientific and mechanical productions on the occasion.

THE GLASS WORKS OF VENICE AND MURANO.

From an early date the city of Venice has been celebrated for its glass. In the 13th century the processes of the Phœnicians, who had long enjoyed the exclusive production of glass (in consequence of the abundance of its principal ingredients, natron, sand, and fuel, on their coasts), seem to have been learnt by the Crusaders, and transferred to Venice and the neighbouring island of Murano, where they were long held secret, and formed a lucrative commercial monopoly.

The old Venetian blown glass was light, bright, vitreous in appearance, stained with the richest possible colours, and fashioned into shapes which varied with the individual taste and skill of the workman; this branch of industry, during the fifteenth and two following centuries, rose to a pitch of excellence which obtained for it a world-wide reputation.

Some of the particular secrets of this beautiful manufacture have been handed down from father to son, and so carefully treasured up, that at this very day, quite as much as in the age of Marco Polo, Venice possesses the absolute monopoly of the art. Lineal descendants of the old Venetian glass manufacturers still inhabit the island of Murano; but the demand for the produce of their ancient handicraft has been so unimportant, that these workmen were driven to seek subsistence by the production of a more common-place material for every day use.

The revival of the ancient art of glass-blowing is due to Dr. Salvati, whose imitations of the old Venetian *soffiati* and execution of new designs are most successful, and have excited universal admiration at the Paris Exhibition. The *soffiati*, or blown glass, produced by Dr. Salvati, equal, and even surpass, the old in lightness, brilliancy, colour, and design. The glass blowers of Murano are now able to produce nearly all the famous kinds of ware so peculiar to Venetian glass, and which were thought to be entirely lost, such as "*filigree*" *fiamma*, *retorto*, *opal* or *girasole*, *avventurina*, *reticello*, frosted or "*crackle*" glass, *morise*, *millefiori*, *acqua marina*, rich ruby colours, *giallo d'oro*, and many other kinds of work, some of which are imitations of the old glass and some new inventions.

It is hardly possible in words alone to convey a correct idea of the manipulations necessary for the formation of a bottle of the simplest form. The tools used are an iron tube about five feet in length, a few instruments like shears, of different sizes, and stamps with a strawberry-shaped die. The workman first dips the end of the tube into the pot of molten glass, twisting it round so as to accumulate a sufficient quantity of glass to make the required bottle, a few turns of the rod, and a breath or two into it, and a hollow ball appears at the end, and the required shape is given to the hollow globe by means of the shear-like instruments, whilst being rotated on the glass maker's chair; a "*pontil*" is then attached opposite to the tube, which is then broken off. After being reheated in the furnace the mouth of the bottle is formed; a boy then brings up on the end of a rod a small portion of ruby, *acqua marina*, or any other colour that may be

required to ornament the bottle. This must be so hot as almost to drop off, and must be ready at the exact moment; he touches with it the neck of the bottle, which is rotated on the chair by the glass blower. In this manner rings and other ornaments are wound round the bottle; these rings are scoloped at the same time with the shears by the glass blower. Between these rings little lumps of the same or other coloured glass are then stuck on, and stamped as strawberries with the die. During this operation the bottle has to be introduced several times into the furnace. A vase, not by any means of the most elaborate pattern, required the labour of three pairs of hands during half an hour, in which time it went thirty-five times into the furnace. All this time the glass is drooping and twisting out of shape every time that it is put into the furnace, so that great care is required to retain the form. The finished glass is then put into the annealing oven, where it remains cooling very slowly till the next morning.

The *reticello* is produced by a kind of net-work, consisting of small bubbles of air inclosed within the mass, and arranged in a regular series, crossing and interlacing each other. This ornamental appearance is produced in the following manner:—A tube is made by arranging a number of small glass rods, or *canna*, as they are called, round a centre, so as to form a cylinder, and they are fixed in this position by melted glass. The cylinder is then heated until the rods stick together, and are next drawn out into a long cone, and twisted spirally at the same time; this cone is next inserted into another that has been prepared in a similar manner, but twisted in the contrary direction; the two are then heated until they fuse together. Whenever the little rods cross each other a bubble of air will be enclosed in the diamond shaped space; this occurring in a very regular manner a reticulated appearance is produced.

The "*filigree*" glass is produced in a somewhat similar manner, but by using rods which contain threads of white or other coloured enamel in a body of clear glass; these *filigree* rods are prepared by placing in a mould alternately small rods of white and coloured enamel; the workman then prepares a solid ball of clear glass, which, being deposited in the mould in contact with the rods at a welding heat, causes them to adhere; this ball is then taken out and rolled on the iron plate, or "*marver*," as it is called, into a uniform mass; the ball is then dipped into the pot of clear glass, and then drawn out to the required length and size. Should a spiral rod be required, the mass is twisted during the drawing process.

The *millefiori* are slices of coloured glass rods embedded in a colourless or differently coloured ground of the same material, and are used chiefly for making paper weights.

The *ritorto*, or twisted patterns of many coloured rods are fused together with clear glass. These beautiful striped patterns are very simply made; for a goblet of ruby and aventurine, for instance, a number of rods of the two colours are laid side by side, alternately, on a sort of shovel, and introduced into the furnace. As they begin to melt and adhere together, the workman, with a piece of half-molten glass at the end of his rod, presses upon the end of the first, and turning round the hollow rod winds them all up, so that they come together into the form of a cylinder, the end of which is fixed to the handle that is to control them during the subsequent operations of blowing.

The celebrated frosted, or "*crackle*" glass, of the Venetians was long considered a lost art; it is made by suddenly plunging the hot glass into cold water, and in this manner fractures are produced of a crystalline character. The glass is then reheated at the furnace, and the heated ball is afterwards expanded by blowing. Although frosted glass appears covered with fractures it is perfectly sonorous.

Venice still possesses the absolute monopoly of the art of bead-making. The manufacture of beads is of the highest antiquity; they are found in the tombs of Thebes, and in the ruined temples of Assyria; in the tombs of Greece

and Rome and even in the burial-places of the ancient Britons we find beads, and these, too, of the particular zig-zag pattern which has always been, and still is, manufactured at Venice, and found over the entire continent of Africa. In the history of the conquest of America these beads played a most important part, and were used by the Spaniards to trade with the natives. At the present time great impetus has been given to the bead-trade on account of the prevailing fashion of black beads, for which there is a great demand.

The bead manufacture, or *conteria*, may be divided into two distinct branches, the first the ordinary bead, or *margaritine*, and the other, *Perle alla Lucerna*, which are a finer, and, consequently, more expensive bead.

The manufacture of *margaritine* is also divided into two sections, the first of common glass beads, *canna di vetro*, and the second *canna di smalti*, or enamel beads. The manufacture of these last differs but slightly from the other, but the "paste" is of a finer quality and more costly.

The furnaces are built of a fire clay, found at Cerone, in the Friuli; these furnaces last about two years, 44 weeks being a year's work. The materials are vitrified in pots (*padellati*) made of pure refractory clay, and for the manufacture of beads are usually four to five in number, each capable of containing about 1,300lbs. of "paste." The furnaces for the finer quality of enamel beads are constructed in a different manner from those for *canna di vetro*. The pots are separated from each other by divisions in the furnace, so that the heat can be regulated according to the colour and quality of the paste.

The principal ingredients used in the manufacture of glass beads are Pola sand, Catania soda, natron (a native sesqui-carbonate of soda, found deposited on the sides of several lakes to the west of the Delta of Egypt), antimony, arsenic, manganese, minium, nitre, etc.

The materials used for the production of enamel beads are far too numerous to be enumerated here; almost every product of the mineral kingdom might be mentioned; amongst others, gold and silver, of which considerable quantities are used. The Venetians are still in possession of the best enamel processes, and they supply the French and other nations with the best kinds of enamels of every possible coloured shade.

The raw materials are first calcined in a reverberatory furnace for about ten or twelve hours, where they are kept at a red heat. Whenever the pots are worked out in the glass furnace, the "frit" is immediately transferred into them from the reverberatories in an ignited state; the glass requires from twelve to seventeen hours, according to its quality, to be melted down.

The drawing out of the glass into tubes, or *canna*, is performed by "shifts" (*muda*) of six hours each. Each shift is composed of the gatherer, or *maestro scagnor*, who dips the end of an iron rod into the pot of melted "metal," and gathering up the requisite quantity of glass by turning the rod round and round. He then hands it over to the two assistants, or *pastonieri*, who roll the plastic lumps of glass on the iron plate, or "marver" until it assumes a cylindrical form about $4\frac{1}{2}$ inches in diameter, according to the quality of bead that is intended to be made; a circular hole is next made with an iron tool (*borsella*) in the direction of the axis of the cylinder, and the other assistant applies the end of a solid iron rod, tipped with melted glass, called a "punto," and thus attaches it to the opposite end of the cylinder; the two rods are then handed over to the *tiratori*, or drawers, who draw the cylinder out into a small tube, in a gallery adjoining the glass house; these galleries are usually about 300 feet in length. At the end of the "shift" these tubes are cut into lengths of about three feet, and packed into boxes, so as to be passed off to the manufactory, where they are reduced into beads. This is quite a separate business, although sometimes carried on in the same establishment as the first. During the last few months, on account of the extraordinary demand and high prices for black beads, most of the glass houses of

Murano and Venice have turned their attention to the production of these glass tubes, or *canna*, for bead manufacturers.

For the production of coloured or enamel beads greater care is necessary, as the materials of which they are composed are costly, especially the imitations of coral, cornelian, ruby, opal, agate, mother-of-pearl, &c.; some of these, as the cornelian, are composed of two qualities of paste, the first opaque, forming the core, and the second transparent, of another colour. The tubes, or *canna*, of which the ingredients contain oxide of gold or silver, do not present their true colour until they have undergone a second action of the fire in the process of reduction into beads. Prismatic tubes are also drawn, and are used for different shaped beads.

Besides the production of an infinity of shades of enamels, or *smalti*, as they are called, Murano still preserves the secrets of producing imitations of precious stones of the most dazzling brilliancy, sapphires, rubies, emeralds, topazes, opals, lapis-lazuli, malachite, and *avventurina*, which is exclusively the speciality of Venice and Murano. The inventor of this most beautiful material was the celebrated Miotti in the 13th century, who discovered it by accident, whilst engaged in the preparation of a certain enamel for mosaic, the name *avventurina* was given to it from *avventura*, which signifies chance. According to the most eminent chemists, *avventurina* owes its rich golden iridescence to a crystalline separation of metallic copper from the mass coloured brown by the peroxide of iron.

The following is an analysis of the *avventurina* of the present celebrated manufacturer, the Cav. Pietro Bigaglia, of Venice:—

Silicic acid	67·3
Lime	9·0
Protoxide of iron	3·4
Binoxide of tin	2·3
Protoxide of lead	1·0
Metallic copper	4·0
Potash	5·3
Soda	7·0

Almost infinite are the uses to which it can be applied in jewellery and ornamentation. The glass-blowers of Murano are enabled to remelt and introduce it as a decoration to their celebrated glass wares.

The reduction of the glass tubes or *canna* into beads, consist of the following operations:—1st. The sorting of the tubes, according to size, as it is impossible in drawing that they should be all equal. This is done by women (*cernitrici*), who acquire by practice a marvellous dexterity at this work. The sorted tubes are next passed over to the *tagliatori*, who chop them into small pieces of uniform lengths, on the upright edge of a fixed chisel. The next operation is the dividing of the bits of tube from the broken pieces by sifting. The next process is to round off the angular ends of these cylinders, and for this purpose they have to undergo a second action of the fire. The workmen employed for this purpose are called *tubanti*, from the tubes used by them for reducing the little bits of glass into beads. This tube is made either of copper, brass, or iron, and is fixed at the end of an iron rod. Before being put into the tube, these little pieces of glass are put into a mixture of lime and powdered ashes, moistened with a little water, and are stirred about until their cavities are filled up. This is necessary to prevent the bore of the bead being partially or wholly closed whilst undergoing the action of the fire. A certain quantity of the little bits of glass are put into the tube with a proportion of sand and powdered ashes, according to the quality of the beads, to prevent their sticking together. The tube is then introduced into the furnace, the heat of which can be regulated as required, and the workman continues turning it round until the cylindrical bits of glass assume a smooth rounded form. The beads are then allowed to cool slowly and afterwards taken out of the

tube and separated by sifting from the sand and ashes. The beads are then sorted according to their various sizes by sifting, and the perfect are separated from the imperfect by being turned out on to a slightly inclined table. Those of a perfectly globular form roll off into a box placed below, whilst the imperfect, badly-shaped ones remain on the table. The workmen employed for this purpose are called *governadori*. The beads are next polished in a very simple manner by the *lustradore*, or polisher, who shakes a certain quantity of them in a bag with a little bran. The finished beads are finally threaded on strings, and tied up in bundles of dozens, grosses, &c. This is chiefly done by women and girls (*infilatrici*).

The art of bead-making at the lamp, "*Perle alla Lucerna*," is, as we have said before, quite a separate business. In working at the lamp, tubes and rods of glass and enamel are used. It is impossible to describe all the manipulations of this ingenious art, over which the taste and dexterity of the artist so entirely preside. But we may give an example: a black bead, decorated with roses, forget-me-nots, and leaves of aventurine. The artist first takes a rod of black glass, and melting it in the blow-pipe flame of the lamp, twists it about an iron wire until he has made a small ball of the required size, rolling it on a kind of iron mould with a circular groove, and smoothing it with an iron tool until it has acquired a perfectly spherical shape. He then takes a small rod of aventurine, and softening it in the flame, traces on the black glass ball leaves of any other pattern that may be required, and smooths it again with the iron tool. He next traces with a small rod of rose-coloured enamel the roses on the ball, smoothing it as before with the smoothing tool. The forget-me-nots are next traced on the bead with a small rod of blue and white enamel, that has been previously twisted together spirally in the flame, and drawn out to about the diameter of a shawl pin. The bead thus completed is taken off the wire, and left to cool in a box filled with sand.

An endless variety of beads are made in this manner of every possible colour. Gold and silver beads are made by rolling a bead made of common glass, whilst still hot, on a leaf of gold or silver; some of these are ornamented with little points of crystal, ruby, turquoise, &c. Artificial eyes for stuffed birds, animals, and even for human beings, are also made at the lamp. Spun glass of every tint is also made, and is used for making feathers and flowers of most surprising lightness, baskets, mats, trays, and even ladies' hats.

Mosaics also constitute a most important branch of manufacture at Venice, and may be divided into two distinct classes. The first, inlaid, or *marqueterie* mosaic, which is produced by all the enamel pieces having their edges perfectly close and adherent one to another; such kind of mosaic is generally used for the production of personal ornaments, such as brooches, earrings, bracelets, &c., or objects of household decoration, such as table tops, and other furniture. The Venetian differ from the Florentine and Roman mosaics, being chiefly of complicated geometrical patterns, of extremely showy colours, in enamels, aventurine, artificial agate, chalcedony, lapis lazuli, &c., instead of being made up of stones, as in the Florentine; or like the Roman mosaics, which are manufactured of very thin pieces of enamels of numberless colours, rubbed and polished, and represent landscapes, fruit, flowers, views, animals, &c.

The other kind of mosaic is made by using stone or enamel pieces, cut into shapes which are not quite regular or geometrical. These pieces are then put together more or less near to each other, so that between them the joints are seen, and the work does not in this case appear smooth, but rough. This style of mosaic is known as the Monumental, or Byzantine. This is most fitted and generally adopted for the purpose of architectural decoration, both for the interior and exterior of buildings.

Venice, in nearly all ages, seems to have been the

home of mosaic, and here the walls of the fine basilica of St. Mark's have been during many ages covered with masterpieces of mosaic decoration.

In England fine specimens of modern Venetian mosaics may be seen at the South Kensington Museum, and St. Paul's Cathedral, London. The whole vaulted roof of Cardinal Wolsey's Chapel, at Windsor, representing the kings and queens of England, is now being decorated in mosaic, a great part of which is already fixed, and Dr. Salviati is now executing mosaics for the National Memorial to the late Prince Consort, now in course of erection in Hyde-park.

Enamels are much more permanent than any other substance that has been used in the composition of mosaic, whether stone, marble, or clay, on account of their less porous and less dilatable body.

With regard to the gold and silver enamels, which are used with such effect in monumental mosaics, great improvement has been made of late years in their production. On a ground of thick glass, or enamel, according as it is desired to render the gold enamel transparent or opaque, or to impart to it a warm or variegated colour, there is laid a leaf of gold or silver, to which it is attached principally by the action of the fire; then a film of the purest glass is spread over it; this film may be perfectly colourless, or of any tint that may be required. When well manufactured, these three layers, after being fired, become perfectly united to each other, and form a homogeneous body. If this operation be perfectly successful, the metal will be for ever protected against all possibility of injury, either by atmospheric action, dust, gas, smoke, or insects, and in such a manner as not to lose any of its brilliancy or colour, even after many centuries of exposure. When this delicate film of glass possesses the requisite thinness, fineness, and purity, and the whole surface of the sheet exhibits no inequality of thickness, the metal appears in all its native beauty, and the glass with which it is covered is scarcely discernible.

The manufacture of mirrors and chandeliers also forms an important branch of industry. These mirrors are usually decorated with figures, leaves, &c., of most original design, engraved at the back, and are afterwards silvered. The frames of these mirrors are decorated with leaves and flowers in white or coloured glass. These mirrors have obtained a great success at the Paris Exhibition, and are being sent in large quantities to Paris and London.

THE AIR IN RAILWAY TUNNELS.

The following report of an examination of the air in the tunnels of the Metropolitan Railway was read at the inquest upon the body of Elizabeth Stainsby, whose death was alleged to have been caused or accelerated through the foulness of the air in the tunnels of the underground railway. The evidence had shown that the deceased was suffering from disease of heart at the time of her death:—

London, October 23rd, 1867.

Having received instructions from the directors of the Metropolitan Railway Company, through Messrs. Burdell, their solicitors, by letter addressed to Dr. Bachhoffner, to examine and report on the state of the atmosphere in the different tunnels on their line, and on the sanitary condition generally of the stations and tunnels, we beg to present the following as the result of our investigations:—

We proceeded in the first instance to obtain samples of the air in the tunnels, and we collected them on three separate occasions, namely, first, immediately after the trains had ceased running at night; secondly, just before they commenced running in the morning; and, thirdly, in the afternoon between four and five o'clock, the period of the day when there is generally the greatest amount of traffic.

The samples, twenty-eight in number, were taken at different places in each tunnel, and at different altitudes; some near the crown of the arch, some near the ground, and others on a level with the heads of the passengers. These samples were analysed for sulphurous acid, carbonic acid, carbonic oxide, coal gas, and oxygen.

The presence of sulphurous acid was sought for by the most delicate chemical test with which we are acquainted, namely, its action upon iodic acid and starch, which we have ascertained is capable of showing the presence of one part by volume of sulphurous acid in 100,000 parts of air, but we could not in any case discover by such test the presence of this acid, from which we conclude that its volume was less than the above in the tunnels. The proportion of carbonic acid by volume in 10,000 parts of the air in the several tunnels and stations was as follows:—

Tunnel.	Max.	Min.	Mean.
Tunnel between Bishop's-road and Edgware-road, 2 a.m., Sept. 3rd ..	4.1	4.1	4.1
Tunnel between Edgware-road and Baker-street, 1 to 3 a.m., Sept. 3rd	5.2	4.3	4.8
" 2 to 4 a.m., Sept. 6th	5.4	4.7	5.0
" 4 p.m., Sept. 7th....	..	..	5.7
Baker-street Station, 4 p.m., Sept. 10th	..	..	6.2
Tunnel between Baker-street and Portland-road, 1 to 3 a.m., Sept. 3rd	6.0	4.6	5.1
" 2 to 4 a.m., Sept. 6th	4.5	4.2	4.4
" 4 p.m., Sept. 7th ..	..	..	6.9
Tunnel between Portland-road and Gower-street, 1 to 3 a.m., Sept. 3rd	6.0	5.1	5.5
" 2 to 4 a.m., Sept. 6th	6.1	4.5	5.1
" 4 p.m., Sept. 7th....	..	..	12.7
Gower-street Station, 4 p.m., Sept. 7th	..	..	5.7
Tunnel between Gower-street and King's-cross, 1 to 3 a.m., Sept. 3rd	5.4	4.4	4.9
" 2 to 4 a.m., Sept. 6th	5.2	4.3	4.6
" 4 p.m., Sept. 7th....	..	..	9.1

The amounts of carbo-hydrogen (coal gas) and of carbonic oxide present were so small as to be barely discoverable by the most delicate processes of analysis. Lastly, we ascertained that the amount of oxygen in the air of the tunnels and stations was not in any case deficient.

These results prove that in no instance was the air found to be vitiated to any material extent, although it will be seen that the air taken in the afternoon was less pure than that taken at night. The researches of Regnault, Bunsen, and other eminent chemists, and more recently those of Dr. Angus Smith, show that what may be termed "model or normal atmospheric air" in cities and large towns consists in every 10,000 parts by volume of

Oxygen	2,096
Nitrogen	7,900
Carbonic acid	4
	10,000

It is the last constituent which when in excess renders the air impure, and, in proportion to its increase, so is the air made unfit for respiration. Experiments conducted by Dr. Bernays and Dr. Angus Smith have shown that in several of our London theatres at about ten o'clock p.m., in many other places of public resort, and especially in some of our law courts, the quantity of carbonic acid in the atmosphere of those places varied from 10 to 32 parts per 10,000; and from the "Army Report," vol. v. page 272, it appears that in some fairly-ventilated barracks at Aldershot the quantity of carbonic acid at midnight amounted to 6.42 per 10,000 of air, and at five p.m. it amounted to 7.59 per 10,000; and in the Wellington Barracks from 11.9 to 14.2 per 10,000.

Even in the streets of Manchester, in foggy weather, it has amounted to eight parts per 10,000 of air.*

In order to determine the atmospheric conditions of these tunnels by comparison with the condition of the air in the tunnels of other lines of railway, we took samples of the air from several tunnels near London, and from these, which we designate by numbers only, we obtained the subjoined results:—

Tunnel No.	Carbonic acid per 10,000 of Air by volume.
1	4.7
2	12.1
3	4.6
4	4.3
5	7.8
6	4.5
7	5.3
8	4.3
9	4.2
10	5.1
11	4.3
12	4.2
13	4.6

Our next inquiries were directed to the quality and quantity of the fuel used in the engines, and to the mode by which its combustion is effected. The plan adopted (with which we cordially agree) is to diminish as far as practicable the combustion of the fuel during the passage of the trains through the tunnels and stations. The steam in the boiler is raised in the open air to a temperature and pressure which, by experience and daily practice, is found sufficient to work the trains through the tunnels; and when the trains come again into open space, fresh steam is then generated sufficient to propel the trains through the next journey, when the process is again repeated; by which means the engine-driver is enabled, when passing through the tunnels and stations, to close the fire-box and damper, so as merely to keep

* AMOUNTS OF CARBONIC ACID PER 10,000 OF AIR IN DIFFERENT PLACES.

1. Cities and Towns:—	Min.	Max.	Mean.
London	2.8	4.3	3.4
Manchester	4.9	15.0	5.4
Munich .....	..	..	5.0
Madrid	3.0	8.0	5.2
Paris	3.6	5.1	4.9
2. Places of Public Resort:—			
Court of Chancery (doors closed) ..	..	..	19.8
" (doors open) ..	..	..	4.8
Chamber of Deputies, Paris .....	..	..	25.0
Theatres (London)	7.6	32.0	14.9
" (Manchester)	10.2	27.3	14.8
" (Paris)	23.0	43.0	33.0
3. Dwelling-houses by day:—			
.....	5.4	12.7	7.8
4. Dwelling-houses by night:—			
In a study near table .....	..	..	11.8
" near ceiling .....	..	..	15.6
Bedroom at night .....	..	..	28.0
" window open .....	..	..	8.0
5. Dormitories:—			
At Salpêtrière .....	..	..	80.0
Another at ditto .....	..	..	68.0
Workhouse ward .....	..	..	125.0
Lodging-house in City .....	..	..	100.0
6. Schools by day:—			
Various in France	27.0	47.0	36.0
Do. in Germany	20.0	56.0	39.2
Do. in England	9.7	31.0	21.5
7. Mills and Workshops:—			
.....	28.3	30.0	29.1
8. Barracks at Night:—			
.....	11.9	14.2	12.8
10. Cornish Mines:—			
Good .....	..	..	8.0
Bad .....	..	..	190.9
11. In expired Breath:—			
.....	350.0	500.0	452.0
12. In room with chafing-dish:—			
.....	..	..	1,400.0

the fire in such a condition that it may be easily revived at either end of the journey.

The evolution of the products of combustion is thus almost entirely confined to that portion of the journey when the trains are passing through the open spaces.

The coke is of a superior quality, being made from a coal which is known to be more than usually free from iron pyrites, and it is burnt in the ovens for twenty-four hours longer than the ordinary coke generally used upon railways. In addition to which a staff of eight men and a foreman are constantly employed in examining and selecting the coke, so as to ensure that none but the best quality of coke is transmitted to London for the use of the Underground Railway.

To determine the per-centage of sulphur in the coke, thirteen samples were submitted to chemical analysis, and these gave an average proportion of 0.26 per cent. of sulphur, which is about one-fourth the quantity found in ordinary coke. As regards the coke, therefore, we see nothing to which we can take exception, but, on the contrary, we are of opinion that the best available means are used for obtaining a fuel as free from deleterious matter as possible, in addition to which the combustion of the same is conducted with the view of preventing as far as possible the escape of offensive gases.

The presence of sulphur, or, more correctly speaking, of sulphurous-acid gas, in the tunnels and stations, which at times is appreciable both to taste and smell, more particularly on those days when the external atmosphere is unusually dense, must not be taken as an indication that this gas exists in dangerous quantities, for as little as one part of this gas in 100,000 parts of atmospheric air is strongly perceptible both to taste and smell; and paper moistened with a solution of iodic acid and starch becomes tinged with a blue colour when exposed for a few minutes to air having the above proportion of sulphurous acid. On several occasions we have exposed this delicate test to the air in the tunnels while passing through them, both in the carriages and on the engines; and, although the quantity of air thus brought into contact with the test has been considerable, yet it has only been during the time of active traffic that the test has shown the presence of sulphurous acid, and then in an insignificant degree. In addition to the above, we beg to point out another cause which communicates to the air, more particularly in the stations, a pungent smell, which, although disagreeable, cannot in the slightest degree be regarded as injurious to health; we allude to the partial combustion of the wood forming the breaks when acting upon the tires of the wheels in checking the speed of the train as it approaches the stations.

The number of trips made by the trains through the tunnels daily amounts to 358, of which 284 are by the narrow-gauge trains, and 74 by the broad-gauge. Each of the narrow-gauge trains occupies 20,000 cubic feet of space, and those of the broad-gauge 23,000 cubic feet. The length of time occupied by each train in passing through the tunnels and stations is ten minutes. There are numerous openings communicating with the external atmosphere above, amounting in the aggregate to 3,164 square feet, and distributed in the following manner: namely, Baker-street station, 1,362 square feet; Portland-road station, 863 square feet; Gower-street station, 939 square feet. The western end of the tunnel at Edgware road opens into a large area called the Yard, and, at the eastern end of the tunnel at King's-cross an opening has been made directly into the atmosphere, 40 feet in width, in addition. By an extensive series of thermometric observations we find that there is an average difference of about 1.7° Fahrenheit between the temperature of the tunnels and that of the external atmosphere; the mean outside temperature being 70° Fahrenheit, while the air in the tunnels had a mean temperature of 68.3° Fahrenheit, so that it was 1.7° Fahrenheit-colder than the external atmosphere. During the winter months this condition will possibly be reversed;

but in either case there will be a rapid change of air by an ascending and descending current. Having regard to the cubical volume of the trains, the short time occupied by them in passing through the tunnels and stations, the large volume of air which they displace, and the increased impetus given to the horizontal movement of the air by the rapidity of the transit, we are of opinion that the vitiation of the atmosphere cannot be of a serious character, and this accords with the results of our analysis.

A careful inspection of the tunnels has also shown that they are well constructed, and are generally dry and free from infiltration of liquid or other matter prejudicial to health, with the exception of a portion of the tunnel between Portland-road and Gower-street; to this we directed the attention of Mr. Fenton immediately after our first inspection; and we are happy to be able to add that the defect was at once attended to, and is now in a perfect sanitary condition.

We find on inquiry that the general health of the *employés* is such as to afford unquestionable proof of the sanitary condition of the air in the tunnels. From a statement furnished to us by Mr. Fenton, it appears that the per-centage of sickness and mortality of these persons is considerably less than that of the *employés* on the Great Western Railway. To this fact we may add the results of our own personal inquiries, which fully confirm it, as many of the engine-drivers and guards have, we find, been in the service of the company since the opening of the line. They are, to all external appearance, robust, healthy men, and they have assured us that since they were first appointed they have scarcely had a day's illness.

From the foregoing facts, we are enabled confidently to state that the atmosphere of the Metropolitan Railway is not unwholesome or injurious to health.

(Signed)

GEO. H. BACHHOFFNER, PH.D., F.C.S., &c.

HY. LETHEBY, M.B., M.A., &c., Professor of Chemistry in the College of the London Hospital, and Medical Officer of Health for the City of London.

J. WHITMORE, M.D., &c., Medical Officer of Health, and Chemical Examiner of Gas for the Parish of St. Marylebone.

It may be mentioned that the jury, without hesitation, found a verdict of "Died from natural causes."

PARIS EXHIBITION.

The absolute closing of the Exhibition was officially announced for the day originally fixed, namely, the 31st of October, and the numbers present during the last three days of the month, and especially on the 30th, were enormous. According to some accounts two hundred thousand passed the wickets on that day, but this is probably an exaggeration; a large proportion consisted of the children of the common schools of Paris, whose admission was paid for by the society which was formed for the special purpose of aiding the working classes to visit the Exhibition. On the morning of the 31st Oct. there appeared a notice, signed by the Prefect of Police, stating that the Exhibition would remain open three days longer, the rate of admission remaining the same, all gratuitous cards being suspended, and the net proceeds being devoted to public charity. The change thus made at the last moment was unfortunate; the foreign commissioners and exhibitors found their arrangements interfered with, and consented to the delay very unwillingly. The result affords an additional argument for absolute exactitude in carrying out the original plan in all such undertakings. The time has turned out peculiarly unfavourable to the project of aiding the charity funds. The 1st of November being a strict religious *fête* (*Tousaint*) the schools were absent, and the following day being that upon which all Paris visits the

last resting-places of relatives and friends, the Exhibition was almost a desert. Moreover, the gallery of the *Histoire de Travail* was closed, and many exhibitors had already packed up their goods. We are not yet aware what was the attendance on Sunday, but probably it will have been large, as by that time the people would be all aware of the change made with respect to the closing. There is still a rumour afloat that the Exhibition may yet remain open for some days longer, perhaps at a reduced rate of charge; but the authorities are said to have absolutely decided against gratuitous admission, on account of the difficulty of controlling such an immense mass of persons as might be expected to attend.

One portion of the Exhibition, the horticultural garden, which will in no way interfere with the business proceedings of the other portion, is to be maintained for a time, but the weather will soon be too ungenial to render promenades there agreeable.

The completion of the list of awards was effected on the 30th of October; this new list includes the horticultural and agricultural classes, the hydraulic and other services of the exhibition itself, and that of the means and processes employed by ouvriers working on their own account. This list is to be immediately printed and published in a provisional form, as the former list has been, but it is announced that, like the first, it may require numerous corrections, so that a perfect list cannot be looked for for some time, as proofs are to be sent to all prize-holders for correction.

The distribution of the medals of the former list is announced to take place as follows:—The gold medals between the 15th and 30th of the present month; the silver during December; and the bronze between the middle of January and the end of February. A diploma will be given with each medal, and those for honourable mention may be expected to be delivered in the month of March.

The catalogue of the retrospective collections appeared only last week, and though it is little more than a bare list of objects, it fills more than 400 pages; it is, however, very incomplete, the contributions of Spain, Portugal, Hungary, Sweden, and the East, not being included. A new and complete edition is promised shortly.

The presentation to the French Society, by the Royal Life-boat Institution, of the fine English boat exhibited here, has produced an admirable effect; the Central Society, which is under the patronage of the Empress, has expressed its hearty thanks for the handsome present, and has ordered the name of the British Institution to be painted on the bows of the life-boat itself and inscribed on the list of benefactors to the French society, and has decided that the boat shall be placed at the Calais station as proposed by the donors.

Experiments were made in the artillery practising ground, at Vincennes, the other day, with the life-line apparatus exhibited by the Bremen Society for Saving Life from Shipwreck; the trials were conducted by French and Prussian officers, and the report is highly commendatory. The arms used to throw the line are reported to have a range of 400 metres, and to act with very satisfactory precision.

Commerce.

THE SILK TRADE AND THE FRENCH TREATY.—At a meeting of the Macclesfield Chamber of Commerce on Monday last the deputation who recently waited upon Lord Stanley presented a report of the statements which they submitted on the effects of the French treaty upon the silk trade. From this it appears that their plea on behalf of the English manufacturers was that their interests, and the interests of the large number of persons employed by them, were not fully considered when the French treaty was made, since, notwithstanding the enormous advantages which the French silk manufac-

turers were given by the total freedom from duty on silk goods exported to England, the French Government insisted upon retaining duties which were then imposed, and still continued, on certain goods made of silk in this country, and in which England might have stood a fair chance of competing with French manufacturers. Apart from the distress experienced in Spitalfields, the following towns were named as having severely suffered:—Manchester, Derby, Macclesfield, Coventry, Nottingham, Congleton, Leek, and Sandbach. In Macclesfield, in 1859, before the treaty, there were 55 factories, employing 14,000 people; and these have been reduced to 31 factories, employing 5,000 people. There are 2,000 empty houses in the town, or 20 per cent. of the whole, and the sufferings of the workpeople continue to be very great.

Colonies.

RAILWAYS IN VICTORIA.—A statement of the revenue and expenditure on the Victorian Government Railways for the half year ending 30th June, 1867, has been presented to Parliament, from which it appears that the total mileage of the passenger and goods trains was 555,654 miles. The total revenue was £238,960, and the expenditure £131,908, leaving a balance for profit of £127,051. The following are some of the principal items of expenditure:—Locomotives, £49,585; maintenance of permanent way and works, £24,789; passenger and goods traffic and general charges, £57,533. The cost per train per mile was 4s. 8d. The number of passengers was 567,898, paying £104,056. The quantity of goods conveyed was 182,257 tons, realising for carriage £135,802, and £4,840 was received for live stock.

THE EFFECTS OF THE DROUGHT IN SOUTH AUSTRALIA.—It appears that at the close of the year 1863, there were 3,891,600 sheep in the colony, and at the close of 1866 there were 3,911,000, being an increase of only 20,000 in three years, or about $\frac{1}{2}$ per cent., whereas the rate of increase for the years 1861 and 1862 was $12\frac{1}{2}$ per cent. per annum. The cattle returns show even a more disastrous result than the sheep; the total number at the close of 1863 was 226,100, and at the close of 1866 their number had been reduced to 123,800. The above returns would be slightly modified by the imports and exports of stock, but it would not materially affect the above result.

REVENUE OF VICTORIA.—The following statement shows the net revenue of the colony of Victoria for the year ended June 3rd, 1867, compared with that of 1866:—

	1866.	1867.
Customs	£1,257,848 ..	£1,160,237
Excise	47,357 ..	48,732
Territorial	773,658 ..	854,743
Public Works	666,469 ..	645,940
Ports and Harbours ..	18,244 ..	17,661
Fines and Fees	97,563 ..	73,151
Postages	137,801 ..	110,787
Miscellaneous	43,120 ..	44,192
	£3,042,060	£2,955,443

QUEENSLAND.—The cotton crop of last season, under very considerable disadvantages, was such as to induce a much larger cultivation in the coming one. Some speak of four times the growth, some more than that; but all agree that the yield of 1866-7 has been such as to justify an enormous increase in 1867-8.

Obituary.

ELIAS HOWE, jun., the inventor of the sewing machine, died on the 3rd of October, in the 48th year of his age, at Bridgeport, Connecticut. He was born in 1810, at Spencer, in Massachusetts. At the age of sixteen, he went to work in a manufactory of machinery in Lowell. At the age of seventeen, the closing of the

mills in Lowell sent him adrift, and he afterwards found work in a shop in Cambridge, where he was companion with his cousin, Nathaniel P. Banks, since Governor of Massachusetts, Speaker of the House of Representatives, and Major-General. From Cambridge, he went to Boston, and worked in the shop of Ari Davis, where he first thought of the sewing machine. In April, 1845, he sewed a seam with his machine, and in May of the same year he had completed his work. He procured his patent in 1847. Meeting with little success he went to England, but could accomplish nothing there, and returned to America a poor man in 1849. It was not until 1854 that his machine became a success, and down to that time 8,000 had been manufactured. Now there are scores of different kinds of machines made in America, and during the year ending with June last no less than 170,105 were made in the United States. Mr. Howe at the time of his death received a royalty for every machine manufactured, and the aggregate royalties paid him have amounted to more than 2,000,000 dols.

Notes.

EDUCATIONAL CONGRESS.—The congress appointed to be held at Birmingham on Wednesday, 13th inst., under the direction of the General Committee of the Scholastic Registration Association, will meet in the Midland Institute at eleven o'clock, a.m.; the Rev. J. D. Collis, D.D., F.C.P., Head Master of the Bromsgrove Grammar School, will preside. No alteration has been made in the subjects for discussion, which are as follows:—1. How far will the proposed Scholastic Registration Act tend to raise the Standard of Education throughout the country, and promote the interests and efficiency of the Scholastic profession? 2. How far is the Science of Education capable of development in this country by the more specific training of educators, and by such measures as the institution of a special faculty of Education in the Universities of Great Britain and Ireland? 3. What means can be adopted for training teachers for Upper and Middle Class Schools? Further particulars may be obtained from the Hon. Secretary, Barrow Rule, Esq., Aldershot, and, on the 12th and 13th November, at the Midland Institute, Birmingham.

MEETINGS FOR THE ENSUING WEEK.

MON......R. Geographical, 8. 1. The President's Opening Remarks.
2. Mr. C. R. Markham, "Portuguese Expeditions to Abyssinia."
TUES ...Ethnological, 8. "The Ethnology of Abyssinia, from the Report of Consul Plowden, with Observations by Mr. John Crawford."
Civil Engineers, 8. Discussion upon Mr. Byrne's paper, "Experiments on the Removal of Organic and Inorganic Substances in Water."
THUR ...Zoological, 8.

Patents.

From Commissioners of Patents' Journal, November 1st.

GRANTS OF PROVISIONAL PROTECTION.

Anvils—2924—H. Sharp and F. W. Webb.
Boilers and furnaces—2920—W. Tredgold and J. McNeill.
Bonnets, &c.—2936—C. Montagu.
Boots and shoes—2917—G. M. Wells.
Bottles, &c.—2959—H. Hughes.
Bottles, &c., stoppers for—2922—F. Prudencio, F. Cooper, and J. F. Cotterell.
Bottles, &c., stoppers for—2913—L. Newton and J. Swales.
Boxes, dredging and spice—2971—A. V. Newton.
Carriages, applying wheels to—2967—G. Jones.
Casks, cleansing—2906—J. Oxley.
Chairs—2902—C. Tinot.
Churns—2940—W. Liebermann.
Closets, &c., deodorizing dry—2918—J. Bannehr.
Conveyances, disconnecting from animals—2797—R. Ellis.
Cooking by means of gas—2931—H. J. Bale.
Cotton, &c., machinery for preparing—2947—E. Butterworth.
Excavating apparatus—2826—J. B. Hulme.

Fabrics, machinery for clipping certain—2914—L. Hamel.
Felts—2946—J. Anderson.
Fire-arms and cartridges—2923—H. W. Garrett and G. Holcroft.
Fire-arms, breech-loading—2941—W. R. Lake.
Fire-arms, breech-loading—2961—J. Adams.
Fulling machines—2903—E. Gessner.
Furnaces—2953—W. Barrett and C. Martin.
Gas—2893—A. Aitchison.
Gauges, &c., preventing the bursting of—2925—E. Casper.
Hoes—2945—F. Adkins.
Horse shoes, &c.—2965—P. and A. Walker.
Leather, pressed—2977—F. J. Bugy.
Legs, artificial—2957—A. H. Brandon.
Letter-boxes, &c.—2948—M. W. Shove.
Limb fractures, treating—2979—C. S. Jeaffreson.
Looms—2951—M. B. Nairn.
Manure, disinfecting—2549—F. Tolhausen.
Metals, glass, &c., casting—2912—J. Rives.
Mining machines, cages used in—2934—J. King.
Motive power—2899—A. M. Clark.
Muffs, &c.—2892—M. Vogl and H. V. Dyk.
Needles, threading—2891—H. A. Bonneville.
Ornaments for dresses, &c.—2950—H. Hughes.
Paper—2715—J. Jameson.
Paper, &c., cutting—2911—R. C. Ross.
Perambulators, &c., hoods for—2910—E. Shaw.
Pianofortes—2939—M. J. Matthews.
Projectile dischargers—2949—R. Watkins.
Pulverizers—2975—C. D. Abel.
Railway signals—2908—M. Wilkin and J. Clark.
Railways, &c.—2896—W. R. Lake.
Rollers—2901—F. D. Frost.
Saddles, pack—2897—H. A. Leveson.
Sewage, distributing—2898—B. Latham.
Sewage, treating—2894—T. H. Baker and T. Woodroffe.
Sewing machines—2867—H. B. Barlow.
Sewing machines—2895—M. Samuelson.
Shuttle eye—2928—W. H. Tasker.
Ships' davits—2937—M. Alex.
Steam, superheating—2890—H. A. Bonneville.
Telegraphic cables, &c.—2942—A. F. Jaloureau and C. L. Lardy.
Telegraphic communication by pneumatic means—2900—A. and A. C. M. Prince.
Telescopic apparatus—2969—W. Beale.
Watches—1944—J. Wilkinson and W. Grimshaw.
Water, refrigerating—2944—J. Schwartz.
Wells, sinking—2981—J. L. Norton.

INVENTIONS WITH COMPLETE SPECIFICATIONS FILED.

Publicity, &c., obtaining—3008—A. M. Clark.
Centrifugal pumps—3041—W. R. Lake.

PATENTS SEALED.

1273. J. and J. Lomax.	1313. N. M. Shafer.
1286. J. Stuart and J. H. Smith.	1321. J. Bail.
1287. W. R. Lake.	1361. T. J. Mayall.
1293. E. Kriehhoff.	1389. J. Johnson and A. Giles.
1298. S. Thacker.	1392. W. Smyth.
1303. C. B. Reitz.	1507. W. Nichols, J. Burnley, T. Wilson, and G. Jackson.
1306. J. Thèvenet.	1510. S. H. Foster & T. Bunney.
1307. L. Delperdange.	1517. D. Adamson.
1308. J. H. Johnson.	1573. F. J. Vandervinne.
1309. E. Leigh.	1678. W. W. and J. Wood.
1311. T. W. Bunning and W. Cochrane.	1728. A. M. Clark.

From Commissioners of Patents' Journal, November 5th.

PATENTS SEALED.

1317. W. Bradbury.	1363. G. E. Donisthorpe.
1323. R. Taylor and E. Poulson.	1364. H. R. Cottam.
1326. W. R. Lake.	1369. T. A. Weston.
1328. G. Wilson.	1373. T. A. Weston.
1334. J. S. Cavell.	1376. A. Herce.
1344. C. Burrell.	1381. G. Jeffries.
1348. N. W. Wheeler.	1382. G. McKenzie.
1349. N. W. Wheeler.	1385. R. Mellard.
1350. N. W. Wheeler.	1386. J. Norman & W. H. Miller.
1351. N. W. Wheeler.	1391. J. Combe.
1354. J. and A. Fairley.	1402. T. Nelson.
1357. J. Gaskell.	1417. J. W. Butler.
1354. W. R. Lake.	1422. A. H. Colles.
1359. J. Nixon and J. Winterbottom.	1468. E. Webb.
1360. T. A. Weston.	1506. G. Hurdman.
1362. H. R. Cottam.	2073. T. Wrigley.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

2707. G. Ashcroft.	2896. J. Easton, jun.
2887. W. Wilson.	2735. H. A. Gwynne.
788. R. A. Brooman.	2720. E. T. Hughes.
2688. C. O. Crosby.	2745. H. V. Scattergood.
2695. J. F. Brinjes.	3006. W. Clara.

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

2717. W. Hewitt.	2723. J. Higgins and T. S. Whitworth.
2904. I. Sharp and W. Bulmer.	